ATTACHMENT B

12 May 1965

ADP PHILOSOPHY OF THE INTELLIGENCE DIRECTORATE

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1. Having suggested a DD/S study of Agency computer needs in 1958 and, indeed, having pioneered machine applications in information processing in 1947, the DDI area has consistently urged the use of machines as tools whether they be typewriters, reproduction gear, punched cards or computers. We have also consistently argued for guaranteed, non-competitive use of whatever machines are part of our system in order to perform our mission. We agree with the need for high level ADP policy direction and with the comments concerning a central point for coordinating equipment procurement above a fixed cost level, for recruitment and training, R&D stimulation, etc. but we have no reason to believe, and know of no Agency study which proves, that the location of equipment in a centralized facility outside of the DDI to support the DDI mission will be more efficient. On the contrary, we are convinced by virtue of NPIC and OCR experience, that their large-scale activities are increasingly successful as their machines are intimately interwoven in their customer service and/or production programs, in a management environment which allows for flexible adjustment to changing needs and for "on-hands" experience with the machines. We believe that this view can be supported by Mr. Clewlow's report and by the Bureau of the Budget Circular A-71.

2. We do not quarrel with the probability that computer centralization saves money and scarce manpower in certain administrative, mathematical/scientific, and "special" projects outside the purview of NPIC and OCR, and have, indeed, encouraged research office use of OCS facilities, particularly in the pre-CHIVE world. But we are concerned that the computer, with its power (both real and over-estimated) retain its role as a support tool and that the DDI mission and authority remain clearly delineated in intelligence information processing and production discussions and activities within or outside of CIA, including those relating to information exchange with others, whether the base be hard copy documents, card decks or tape/disc files. It was for these reasons, and particularly because of our strong conviction that most effective management would result from direct administrative control over our own support equipment, that the DDI requested return of Project CHIVE personnel and equipment in his memorandum to the DDS of 30 July 1963. Although circumstances precluded

this and we have acted in keeping with the directions given by senior management, the review requested by the Executive Director-Comptroller in his Action Memo A-444 provides the opportunity, and in fact, calls for us to repeat our earlier philosophy, since we still hold to it.

3. Our present ADP structure, and that proposed, by no means reflects a proliferation of computer centers. We have now computer equipment in NPIC only; we have EAM equipment in OCR and, on a very limited scale, in OO/C, the latter physically located outside the Headquarters Building. We propose that OCR have computer equipment under its own management when CHIVE is operational.

4. The ADP field is still one which is foreign to most Agency managers. There is rightful concern, both in-house and elsewhere in Government, that ADP developments occur according to plan and policy to constrain costs and ensure optimum utilization. But there is also rightful concern that many assumptions about advantages of centralization of equipment are unproven and, even, false.

/s/

[redacted] 25X1

Executive Assistant to the AD/CR
(DD/I Member ADP Committee)

COPY

IPD/NPIC-118-65
7 May 1965

MEMORANDUM FOR: DD/I Member, ADP Committee

SUBJECT : NPIC Contribution to ADP Committee

REFERENCE : A. Executive Director -- Comptroller, Action Memo A-444
B. OCR Memo, 8 April 1965

1. In accordance with your request, as stated in Reference B, I am forwarding the attached study of NPIC's ADP interests for submission to the ADP Committee. This study follows the outline presented by Mr. Becker at your initial ADP Committee Meeting, 6 April.

2. At the second meeting of the ADP Committee, it was agreed that Section E of the proposed outline would be dropped, that the initial submissions would contain a summary of current ADP resources and estimates of ADP requirements over the next five years. NPIC's ADP resources are contained in Section B of the attached study. NPIC's ADP requirements are stated on the attached forms, as requested by Dr. Brown.

3. I have not attempted to estimate the man years or the System 360 configuration required for each requirement. I believe our gross man-year projection contained in Table I of attachment, which is based on an analysis of experience to date and anticipated NPIC requirements, are far more realistic than individual crystal ball guesses for each requirement. Similarly we are not sufficiently familiar with the System 360 models to specify configuration for each requirement. They will all operate on UNIVAC 490 family real-time systems with mass storage and such specialized equipment as indicated specifically for each requirement.

/s/ [redacted]
Chief, Information Processing Division

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APPROVAL: /s/ ARTHUR C. LUNDAHL
Director, NPIC

7 May 1965
Date

Attachment: a/s

SECRET

Automatic Data Processing at NPIC

A. Present ADP Philosophy and Structure

1. The present ADP philosophy at NPIC evolved out of the original concepts for data management established concurrently with the establishment of project HTAUTOMAT. Underlying these concepts is the premise that each component has a clearly defined mission to accomplish and must be given adequate resources to attain its objectives.

2. The original concept of project HTAUTOMAT envisaged using the Minicard System as a mechanism for storage and dissemination of imagery collected by the U-2 system. With the Minicard equipment on hand, it was natural that it should also be applied to the storage and retrieval of document images to provide collateral support to the photo analyst. To supply additional summary target-oriented background information, a system was evolved wherein an "encyclopedia" was maintained in punched-card form and reproduced prior to the start of first-phase exploitation for any mission. From this came the present procedures of supplying "Target Briefs" to the PIs for each mission, and the partial mechanization of first and second phase report production with automatic incorporation of the substance of these reports back into the Target Brief File. Begun on conventional tabulating equipment, this system was eventually transferred to an IBM 1401. This, together with the Minicard establishment, constituted the automatic data processing operation of the Data Management Division and later the Collateral Support Division.

3. Concurrently, management determined that electronic computers would be used to facilitate the various computational procedures of analytic photogrammetry necessary to meet analyst requirements for derivation of metrical information from photography. In 1957 the Agency's first computer (ALWAC III E) was requisitioned. To improve the response time of the system to the requirements, the concept of dispersed photomeasurement equipment on-line with a common computer was developed. The actual implementation of this system has proceeded with the acquisition of the UNIVAC 490 as the computational element for the system. The criteria on which this selection was based were derived from postulated peak loading requirements, as are the criteria used in design of any "real-time" system. One consequence of designing for peak loading is that total central processor time normally required for the so-called "real-time" application is only a small percentage of the total available. In this particular instance a substantial amount of time is required for executing batch programs that support the "real-time" system, but well over 50 percent of total main frame time is still available for other purposes. (It should be emphasized that this time is assembled out

of increments ranging in size from milliseconds to several minutes.) As the Photo Measurement System moved toward realization it became more and more deeply involved in problems arising in the creation and manipulation of large data files.

4. The UNIVAC 490's file manipulation capability (coupled with a central processor with time available for multiple processing) and the lightly loaded printer offered an obvious solution to the overload on the IBM 1401 that resulted from the increasing size of the Target Brief File and higher frequency of success in collection efforts. Looking further ahead, the existence of an extensive system for intro-center communication with the U-490 central processor offered an interesting vehicle for experimentation with various approaches to "on-line" information retrieval that might greatly reduce the amount of Target Brief printing associated with each collection effort. These considerations dictated a centralized approach to the use of such equipments in support of NPIC's photo-exploitation activities.

5. On 4 May 1964 the Information Processing Division was established in NPIC by merger of the personnel and equipment of the two groups previously mentioned. IPD is responsible directly to the Executive Director, NPIC for providing on-line, real time and batched scientific computation, and information processing and data retrieval computer services in support of NPIC, and the departmental activities of the Service/Agency Detachments and select components of the Intelligence Community. (See NPIC organization chart and IPD Mission and Function statement attached.) The consolidation of NPIC's human and physical ADP resources into a single management entity is proving to be a significant contribution to NPIC's ability to maintain its leadership in the development and implementation of the most effective and efficient data processing techniques used in the photo intelligence community.

6. We believe performance has validated the original HTAUTOMAT philosophy and that it is consistent with BOB circulars and the Clewlow Report. In our judgement, experience has shown that those components which have been free to develop their own ADP resources in support of their own mission and functions have succeeded in implementing efficient operating systems responsive to their needs and that those components which have had to depend upon centralized services have not had comparable success.

7. This judgement is further borne out by the conclusion of the Clewlow Report which states:

> "The assignment of appropriate roles to the different echelons of management in the Federal Government is of great importance. Some computer applications, particularly those

involved in administrative functions, have a great deal in common and conceivably could be subject to greater centralization. On the other hand, the more significant computer applications are integral parts of Agency programs; accordingly, each is a unique application and its management is a responsibility of those officials charged with mission accomplishment. The problem then becomes one of improving the effectiveness and the economy of computer utilization, both within an executive agency and in the Government as a whole, without derogating the proper authorities and responsibilities of managers in the line." (Page 4)

8. In line with the Clewlow Report, BOB Circular A-71 only makes heads of executive agencies responsible for "merger or integration of data systems...when cost effectiveness in equipment utilization, data systems management, or program accomplishment can be increased." We do not believe that any increase in cost effectiveness in equipment utilization, data systems management, or program accomplishment can be increased." We do not believe that any increase in cost effectiveness would be gained by any centralization beyond that already accomplished within this Center. In fact we believe that NPIC's program accomplishment would be impaired by any move that in any way takes away from the Director, NPIC his control of the tools required to fulfill the mission of this Center.